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EXAMINER

JIANG, CHEN WEN

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/621,859
Filing Date: July 16, 2003
Appellant(s): WEISENBERGER ET AL.

Thomas E. Brown
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 10/15/2010 appealing from the Office action mailed 9/14/2009.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application:

Claims 1-5, 7-13, 22 and 24-29.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken (as modified by any advisory actions) is being maintained by the examiner except for the grounds of rejection (if any) listed under the subheading "WITHDRAWN

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REJECTIONS.” New grounds of rejection (if any) are provided under the subheading “NEW GROUNDS OF REJECTION.”

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant’s brief.

(8) Evidence Relied Upon

Munters "Construction Drying" Munters (10/2000), pp.1-6

Munters "Case Study - Construction Drying: Mold and Mildew Protection Project Yields Multiple Benefits, Round Rock, Texas" Munters (03/2002), pp.1-2

Munters "Using Desiccant Technology to End Moisture Nightmare on Construction Projects"

Web Archive, Muntersamerica (02/2002), pp.1-2

Munters "Solution - Munters Keeps Construction Projects on Schedule" Munters (2000/2001), pp.1-2

Willis, R. "Creating a Little Desert Indoors - Dehumidifiers Speed Up Finish Work Inside NW Buildings" Daily Journal of Commerce (6/2000), pp.1-4

Archive Press Release (08/2002), pp.1-3

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1-5, 7-13, 22 and 24-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Construction Drying (Munters 10/2000) in view of Case Study (Munters 03/2002), Using Desiccant Technology to End Moisture Nightmare on Construction Projects (Munters 02/2002), Munters (2000/2001) and Daily Journal of Commerce (June 1, 2000).

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In regard to claims 1, 2, 5 and 7, Munters (2000) discloses drying services to speed construction activities protect materials and eliminate moisture problems and control humidity at building project. The techniques include using desiccant dehumidification, refrigeration and heating equipment. Munters dehumidifiers continuously replace humid air inside the building with air, which has been dehumidified, i.e.; performing moisture removal within the construction project. This extremely dry air has a low “vapor pressure”. The picture of “Union Station, Seattle, Washington” (page 2) has vapor barrier on the working floor and siding and the descriptions under the picture of “San Francisco, California” (page 5) describes the humidity was extracted from the closed unheated building to allow interiors to be finished on schedule. Munters (2000) discloses the invention substantially as claimed. However, Munters (10/2000) does not explicitly disclose humidity measurement. Munters (03/2002) discloses maintaining level of 30% RH (page 1, col.1 and page 2, col.2) and Munters (02/2002) discloses drying lumber and plywood to 12% before closing the walls (page 2) in the same field of endeavor for the purpose of avoiding mold, i.e.; performing moisture removal within the construction project when the humidity level is above the specified level, such as 12% or 30%. The determining moisture content level at one or more points within the space in the construction project is inherent in the system in order to meet the desired humidity level. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the apparatus of Munters (10/2000) with moisture measurement in view of Munters (03/2002 and 02/2002) so as to improve quality of the construction and shorten the construction time. Munters (02/2002) also discloses the dehumidifier produces air and piped into the closed building using flexible ductwork and direct to specific work areas (moving equipment to different location). It is

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well known in the art that the space has to be enclosed for the environmental-conditioned space. Picture in the Munters (10/2000) is also found in Daily Journal of Commerce (June 1, 2000; front cover) with better quality. The picture demonstrates the vapor barrier surrounding the sides to create a dry working inside building under construction. In regard to the sealed the space with vapor barrier, one having ordinary skill in the art known the material surrounding of the working floor is tarps (vapor barrier) at the front cover of Daily Journal of Commerce. The space has to be enclosed in order to achieve the desired condition such as about closed unheated building (Munters 2000, page 5, San Francisco, California) and covered with a tarps or temporary plywood structure (front cover and page 3 of Daily Journal of Commerce). The tarps and plywood (also considered as vapor barrier since it prevents outside moisture air entering the space) are used to prohibit outside moisture to enter the space under construction. Under the principals of inherency, if a prior art device, in its normal and usual operation, would necessarily perform the method claimed, then the method claimed will be considered to be anticipated by the prior art device. When the prior art device is the same as a device described in the specification for carrying out the claimed method, it can be assumed the device will inherently perform the claimed process. *Ir re King*, 801 F.2d 1324, 231 USPQ 136 (Fed. Cir. 1986).

In regard to claims 3 and 4, Drying services to speed construction are disclosed by Munters (02/2002) for housing project, by Daily Journal of Commerce for building under construction, by Munters (03/2002) for school and by Munters (10/2000) for high rise towers, schools, offices and shopping centers. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to apply the same technology to single

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family drilling since single family drilling is also a building/housing and has the same type of moisture problem.

In regard to claims 8-13, Munters (10/2000) disclose the system may be desiccant dehumidification alone, or an integrated system of heating, cooling, air moving and dehumidification equipment. Munters (03/2002) disclose the system is a combination of desiccant dehumidifiers, indirect fired heater, and fans used to move the warm, dry air through a distribution network of light weight flexible duct. Munters (2000/2001) discloses dehumidification and heating in the same field of endeavor for the purpose of enhance moisture removal.

In regard to claim 22, in addition to all above, Munters (03/2002) discloses maintaining level of 30% RH in the space (page 1, col.1 and page 2, col.2), Munters (02/2002) discloses drying lumber and plywood to 12% before closing the walls (pages 1 and 2) and Munters (10/2000) discloses bring concrete slab to specific moisture content. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to locate the humidity sensor at the locations of desired humidity specified, such as lumber, plywood, wall and slab areas to have better representation of the humidity at the specified structure areas. In response to applicant's argument that "positioning and operating within the space one or more drying devices", it is well known in the art that the purpose of dehumidifiers is to remove moisture in the area. The locations of the dehumidifiers depend on the building, facility arrangements and capacity required, such as basement associated with building HVAC ducts, portable dehumidifiers within smaller space and large dehumidifiers associated with piping for large buildings. Munters places large dehumidifiers outside the buildings on large job sites

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(Daily Journal of Commerce and Munters 02/2002). For a smaller building or space, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place portable dehumidifiers within the space to remove the humidity for the job that portable dehumidifiers are able to handle.

In regard to claims 24-29, in addition to all above, Munters (03/2002) discloses maintaining level of 30% RH (page 1, col.1 and page 2, col.2) and Munters (02/2002) discloses drying lumber and plywood to 12% before closing the walls (page 2). Therefore, continuous moisture content readings are taken to determine whether the desired humidity level has been maintained. This is also shown in the article of “Munters New HCU Humidity Control Independently of Temperature Control” provided with previous Office Action.

(10) Response to Argument

In re pages 7-8, Appellants assert that the Final Rejection mailed 9/14/2009 is improper. The argument is of little moment since the Appeal Brief has been filed, and the finality of an Office Action is a petitionable matter rather than an appealable one.

Independent Claim 1:

In re page 9, Appellants argue that Munters 10/2000 fails to disclose or fairly suggest determining moisture content level at one or more points within the space in the construction project, is completely silent with regard to determining moisture content level at one or more points for the concrete slab and is completely silent with regard to determining if moisture contents levels are above a threshold in the concrete slab and performing moisture removal within said construction project to reduce the moisture level of the space to a value below a level

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sufficient to prevent structural damage and/or growth of mold or mildew on the components within the space.

In response, the heading under the title of “Construction Drying” (see Munters 10/2000) is “drying serving to speed construction activities, protect materials and eliminate moisture problems”. The “to protect materials” is equivalent to the claimed “prevent structure damage” and the “to eliminate moisture problems” is well known in the art which includes “prevent growth of mold or mildew” (e.g.; col.3, page 2 of Munters 03/2002). Munters 10/2000 discloses bringing a concrete slab to specific moisture content (p.4). The moisture level has to be measured and compared with a predetermined moisture level in order to bring the concrete slab to specific moisture content when the moisture contents levels are above the predetermined level (threshold). Therefore, it reads on the claim of “if the moisture level at a selected number of said one or more points is above a threshold, performing moisture removal within said construction project to reduce the moisture level of the space” and “performing moisture removal within said construction project to reduce the moisture level of the space to a value below a level sufficient to prevent structural damage and/or growth of mold or mildew on the components within the space”. In addition, the Final Rejection provides supporting concept of maintaining humidity level of 30% RH in construction site (col.1, page 1 and page 2 of Munters 03/2002) and continuously measuring relative humidity within the space from 70%RH after wallboard texturing to 50%RH next morning and then return to the threshold level of 30% (col.2, page 2 of Munters 03/2002). Therefore, the moisture level at least at one point within the space has been continuously monitored and compared to a predetermined value.

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In re pages 9-10, Appellants argue that “the illustrations of San Francisco, California and Seattle, Washington are extremely unclear and therefore it is difficult to ascertain exactly what is disclosed in such figures. Moreover, it is respectfully submitted that such pictures fail to disclose any type of vapor barrier for sealing a space in a construction project where one or more points determined to have moisture content levels above a threshold is provided”.

In response, Munters 10/2000 discloses the construction drying extracting humidity from a *closed* unheated building (page 5, San Francisco, California of Munters 10/2000). Munters 03/2002 discloses a flexible approach such as partly installed Munters system when some of the building was enclosed and expanded the system to meet growing humidity and temperature control needs when the *entire structure was enclosed* in (col. 3, page 2 of Munters 03/2002). Munters 02/2002 discloses “the dehumidifier produces air ... into the *closed* building” (page 2, Munters 02/2002). Daily Journal of Commerce (front cover, June 1, 2000) discloses vapor barrier (such as tarps seen in the figure) surrounding the working floor and the vapor barrier seals the areas between the floors to create an enclosed space. In combination of these disclosures by Munters, one of the ordinary skill in the art at the time the invention was made would have known to apply the vapor barrier sealed technology to enclose the space in order to prohibit outside moisture entering the space under construction and achieve the predetermined humidity level within the space under construction. In addition, a dehumidifier is one kind of air conditioning system. One of ordinary skill in the art understands to seal any space openings with the outside when using air conditioning systems (e.g., close windows, close door, seal broken and/or unfinished windows, seal the outside entrance and seal any openings). Otherwise, unconditioned air will enter the air conditioning space to render the system ineffective.

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In regard to Appellants' argument about piped dehumidified air into the closed space and is different from moisture removal within the construction project, Examiner respectively disagrees. Munters' pipes are used to distribute dehumidified air to various areas because of the size of the project. This is irrelevant to the claim since performing moisture removal is in the claim and disclosed by Munters.

Independent Claim 22:

In re pages 11 and 12, Appellants assert that Munters 10/2000 fails to disclose or fairly suggest measuring moisture content at one or more locations within the space, wherein said one or more locations are selected from the group of locations consisting of a base plates, a stud and a floor.

In response, Munters 10/2000 discloses bringing a concrete slab to specific moisture content (p.4). The moisture level has to be measured and compared with a predetermined moisture level in order to bring the concrete slab to specific moisture content when the moisture contents levels are above the predetermined level (threshold). Munters discloses maintaining a level of 30% RH in the space (page 1, col.1 and page 2, col.2 of Munters 03/2002), Munters discloses drying lumber and plywood to 12% before closing the walls (pages 1 and 2 of Munters 02/2002), and Munters discloses bring concrete slab to specific moisture content (Munters 10/2000). Munters discloses that all specs could be maintained during application of the floor covering and other installations (col.3 of Munters 03/2002). Base plates, studs and the floor structure contain lumber, plywood and slab and the moisture control of the construction project includes all kinds of structure installations in the construction. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to locate a

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humidity sensor at the locations of desired humidity specified, such as lumber, plywood, wall and slab areas to have better representation of the humidity at the specified structure areas.

In re pages 12-14, Appellants argue that the Examiner has failed in the final office action to specifically point out which portions of the Munters 10/2000 reference are being relied upon for teachings the features of threshold, positioning and operating within the space, dehumidifier, space heater or air moving device. **In response**, the Final Rejection provides the supporting concept of maintaining humidity level of 30% RH in construction site (page 1, col.1 and page 2 of 03/2002) and continuously measuring relative within the space from 70%RH after wallboard texturing to 50%RH next morning and then return to the threshold level of 30% (col.2 of Munters 03/2002). Therefore, the moisture level at least at one point within the space has been continuously monitored and compared to a predetermined value (threshold).

In response to Appellants' argument that the picture San Francisco, California fails to disclose any type of vapor barrier the sealing space, Munters 10/2000 discloses the construction drying extracting humidity from a *closed* unheated building (page 5, San Francisco, California of Munters 10/2000). Munters discloses a flexible approach such as partly installed Munters system when some of the building was enclosed and expanded the system to meet growing humidity and temperature control needs when the *entire structure was enclosed* in (col. 3, page 2 of Munters 03/2002). Munters discloses "the dehumidifier produces air ... into the *closed* building" (page 2 of Munters 02/2002). Daily Journal of Commerce (front cover, June 1, 2000) discloses vapor barrier (such as tarps seen in the picture) surrounding the working floor and the vapor barrier seals the areas between the floors to create an enclosed space. In combination of these disclosures by Munters, one of the ordinary skill in the art at the time the invention was made

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would have known to apply the vapor barrier sealed technology to enclose the space in order to prohibit outside moisture entering the space under construction and achieve the predetermined humidity level within the space under construction. In addition, a dehumidifier is one kind of air conditioning system. One of ordinary skill in the art understands to seal any space openings with the outside when using air conditioning systems (e.g., close windows, close door, seal broken and/or unfinished windows, seal the outside entrance and seal any openings). Otherwise, unconditioned air will enter the air conditioning space to render the system ineffective.

In regard to Appellants' argument that Munters (02/2002) fails to disclose the dehumidifier is positioned and operated within the space and Munters (02/2002) must rely on the flexible ductwork to deliver dehumidified air from dehumidifier not positioned in the sealed space, Examiner respectfully disagrees. Munters' pipes are used to distribute dehumidified air to various areas because the size of the project and is irrelevant to the claim since performing moisture removal is in the claim and disclosed by Munters. In response to applicant's argument that "positioning and operating within the space one or more drying devices" is not taught, it is well known in the art that the purpose of dehumidifiers is to remove moisture in an area. The locations of the dehumidifiers depend on the building, facility arrangements and capacity required, such as basement associated with building HVAC ducts, portable dehumidifiers within smaller spaces and large dehumidifiers associated with piping for large building. Munters places large dehumidifiers outside the buildings on large job sites (Daily Journal of Commerce and Munters 02/2002). For a smaller building or space, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place portable dehumidifiers within the space to remove the humidity for the job that portable dehumidifiers are able to handle.

Dependent Claim 24:

In re page 14, Appellants argue that one or more drying devices are operated for a period of time, whereupon one or more further moisture content readings are taken, and a decision is made whether to continue operating said one or more drying devices. **In response**, the Final Rejection provides the supporting concept of maintaining humidity level of 30% RH in construction site (page 1, col.1 and page 2 of Munters 03/2002) and continuously measuring relative within the space from 70%RH after wallboard texturing to 50%RH next morning and then return to the threshold level of 30% (col.2 of Munters 03/2002). The moisture level at least at one point within the space has been continuously monitored and compared to a predetermined value (threshold) since moisture content reading are taken and threshold level of 30% is given. Therefore, one or more drying devices are operated for a period of time, whereupon one or more further moisture content readings are taken, and a decision is made whether to continue operating said one or more drying devices has been disclosed in Munters 03/2002.

Independent Claim 25:

In re page 14, Appellants assert that that Munters 10/2000 fails to disclose or fairly suggest taking initial moisture content readings at locations within the space, determining whether the measured moisture content meets a threshold indication recommending that treatment is warranted.

In response, Munters 10/2000 discloses bringing a concrete slab to specific moisture content (p.4). The moisture level has to be measured and compared with a predetermined moisture level in order to bring the concrete slab to specific moisture content when the moisture contents levels are above the predetermined level (threshold). Munters (03/2002) discloses

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maintaining level of 30% RH in the space (page 1, col.1 and page 2, col.2), Munters (02/2002) discloses drying lumber and plywood to 12% before closing the walls (pages 1 and 2) and Munters (10/2000) discloses bring concrete slab to specific moisture content. Munters discloses that all specs could be maintained during application of the floor covering and other installations (col.3 of 03/2002). Therefore, taking initial moisture content readings at locations within the space, determining whether the measured moisture content meets a threshold indication recommending that treatment is warranted have been disclosed in Munters.

In re pages 15-16, Appellants argue that the Examiner has failed in the final office action to specifically point out which portions of the Munters 10/2000 reference are being relied upon for teachings the features of threshold, positioning and operating relative to the space and additional moisture content readings.

In response, the Final Rejection provides the supporting concept of maintaining humidity level of 30% RH in construction site (page 1, col.1 and page 2 of 03/2002) and continuously measuring relative within the space from 70%RH after wallboard texturing to 50%RH next morning and then return to the threshold level of 30% (col.2 of Munters 03/2002). Therefore, the moisture level at least at one point within the space has been continuously monitored and compared to a predetermined value (threshold) and moisture reduction equipment is operating until the space reaches the threshold level.

In response to Appellants' argument that the picture San Francisco, California fails to disclose substantially sealed off with vapor barrier, Munters 10/2000 discloses the construction drying extracting humidity from a *closed* unheated building (page 5, San Francisco, California of Munters 10/2000). Munters 03/2002 discloses a flexible approach such as partly installed

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Munters system when some of the building was enclosed and expanded the system to meet growing humidity and temperature control needs when the *entire structure was enclosed* in (col. 3, page 2 of Munters 03/2002). Munters 02/2002 discloses “the dehumidifier produces air ” into the *closed* building” (page 2, Munters 02/2002). Daily Journal of Commerce (front cover, June 1, 2000) discloses vapor barrier (such as tarps seen in the picture) surrounding the working floor and the vapor barrier seals the areas between the floors to create an enclosed space. In combination of these disclosures by Munters, one of the ordinary skill in the art at the time the invention was made would have known to apply the vapor barrier sealed technology to enclose the space in order to prohibit outside moisture entering the space under construction and achieve the predetermined humidity level within the space under construction. In addition, a dehumidifier is one kind of air conditioning system. One of ordinary skill in the art understands to seal any space openings with the outside when using air conditioning systems (e.g., close windows, close door, seal broken and/or unfinished windows, seal the outside entrance and seal any openings). Otherwise, unconditioned air will enter the air conditioning space to render the system ineffective.

In regard to Appellants’ argument that Munters (02/2002) fails to disclose the dehumidifier is positioned “relative to the space.” Examiner respectfully disagrees, “relative to the space” includes within the space and outside the space. In addition, it is well known in the art that the purpose of dehumidifiers is to remove moisture in an area. The locations of the dehumidifiers depend on the building, facility arrangements and capacity required, such as basement associated with building HVAC ducts, portable dehumidifiers within smaller spaces and large dehumidifiers associated with piping for large buildings. Munters places large

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dehumidifiers outside the buildings on large job sites (Daily Journal of Commerce and Munters 02/2002). For a smaller building or space, it would have been obvious to one having ordinary skill in the art at the time the invention was made to place portable dehumidifiers within the space to remove the humidity for the job that portable dehumidifiers are able to handle.

Dependent Claim 26:

In re pages 16-17, Appellants argue that that the Examiner has completely failed to specifically point out which portion of the Munters 10/2000 reference is being relied upon comprising the step of moving one or more of the one or more equipments to different locations within the space prior to the allowing the moisture reduction equipments to continue to run. **In response**, Munters discloses that the dehumidification can be applied to different rooms and areas; such as wood floors and moldings (col.2, page 4, Munters 10/2000), carpet and tile (col.3, page 4, Munters 10/2000), building materials in storage areas (col.2, page 4, Munters 10/2000), concrete walls and slabs (col.1, page 4, Munters 10/2000) and speed floor installation (col.3, 5, Munters 10/2000). Therefore, moving one or more of the one or more equipments to different locations within the space prior to the allowing the moisture reduction equipments to continue to run are inherent in the process since different areas and different installation projects are performed in the building. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place portable dehumidifiers near the areas which need moisture removed effectively to speed up the construction process.

Dependent Claim 27:

In re page 17, appellants assert that the Examiner has completely failed to specifically point out which portion of the Munters 10/2000 reference is being relied upon comprising

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providing one or more additional moisture removing equipments in the step of allowing the moisture reduction equipments to continue to run. **In response**, Munters discloses the desiccant dehumidifier can be integrated with other systems, such as heating, cooling, air removing and dehumidification equipments (cols.2-3, Munters 10/2000). Therefore, one or more additional moisture removing equipments in the step of allowing the moisture reduction equipment to continue to run has been disclosed and would be used based on job site requirements.

Dependent Claim 28:

In re page 17, appellants assert that the Examiner has completely failed to specifically point out which portion of the Munters 10/2000 reference is being relied upon teaching the at least one of said one or more drying devices comprises a dehumidifier, and wherein the one or more additional equipments is selected from the group consisting of an air mover, a heater and a dehumidifier. **In response**, Munters discloses the desiccant dehumidifier can be integrated with other systems, such as heating, cooling, air removing and dehumidification equipments (cols.2-3, Munters 10/2000). Therefore, the one or more additional equipments is selected from the group consisting of an air mover, a heater and a dehumidifier has been disclosed. The choice of the specific type of equipment used would be based on the job site requirements.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Chen-Wen Jiang/
Primary Examiner, Art Unit 3784

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Conferees:

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/Janet C. Baxter/
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